Connolly
VM
881
C65
S73
1968

# PROGRAM OF EVENTS

for

OFFICIAL SEA TRIAL

of the

# COLORADO

M.A. HULL NO. 210

A.S. INC. HULL NO. 1126

## STATES STEAMSHIP COMPANY

AVONDALE SHIPYARDS, INC.

NEW ORLEANS, LA.

VM
188
S75
C65
1968

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States Steamship Company

Maritime Administration Inspection Board
and Other Representatives

Avondale Shipyards, Inc.
Trial Organization

# HISTORICAL DATA

## COLORADO

States Steamship Company - Design V-3280
Maritime Administration Design C4-S-69b

| | |
|---|---|
| Keel Laid | 3-27-67 |
| Launched | 12-16-67 |
| Length Overall | 579' 0" |
| Length B.P. | 544' 6" |
| Beam | 82' 0" |
| Depth to Main Deck Amidships at Side, Molded | 45' 6" |
| Design Draft | 32' 0" |
| Sponsor | Mrs. Barret H. Collins |

# SEA TRIAL

# COLORADO

## GENERAL INFORMATION

The Colorado will get underway from Avondale Shipyards, Inc. wharf at 4: PM on 29 July 1968 and proceed down the Mississippi River to arrive in the Gulf of Mexico about 12:30 AM on 30 July 1968. During the river run, conferences and non-scheduled tests will be conducted. Upon arrival in the Gulf we will proceed to conduct trials in accordance with the published trial agenda. Upon completion of all tests we will proceed up the Mississippi River to arrive at AS, Inc. about 8:00 AM, 31 July 1968.

The trial requirements shall be fulfilled as scheduled events in the trial agenda. The scheduled events are listed in chronological order in the trial agenda and numbered. These scheduled events will be coordinated from the bridge in the following manner:

1. Announce over the P.A. System "Event Number _____ will commence in 10 minutes".

2. After 10 minutes announce over the P.A. System "Commence Event Number _____.

The following spaces are designated as office spaces and conference rooms:

Offices

GGS Computing Rm.

Marad Computing Rm.

AS, Inc. Office & Computing Rm.

Chief Mates Office

1st Ass't Office

Chief Engineers Office

Conference Room:

Officer Recreation Room

Passenger's Lounge

## GENERAL INFORMATION

## COLORADO

Avondale Representatives other than the operating crew will wear name tags printed in black. Representatives of the Inspection Board and other Companies will wear tags printed in red.

Coffee will be available at all times. The first meal served aboard will be dinner on 29 July 1968. Meals will be served at the following times:

| | |
|---|---|
| Breakfast | 5:00 AM to 7:00 AM |
| Lunch | 11:00 AM to 1:00 PM |
| Dinner | 5:00 PM to 7:00 PM |

Life boat stations #1 and #2 Frame 173 stbd. and port. Life jackets are located in the vicinity of lifeboat stations.

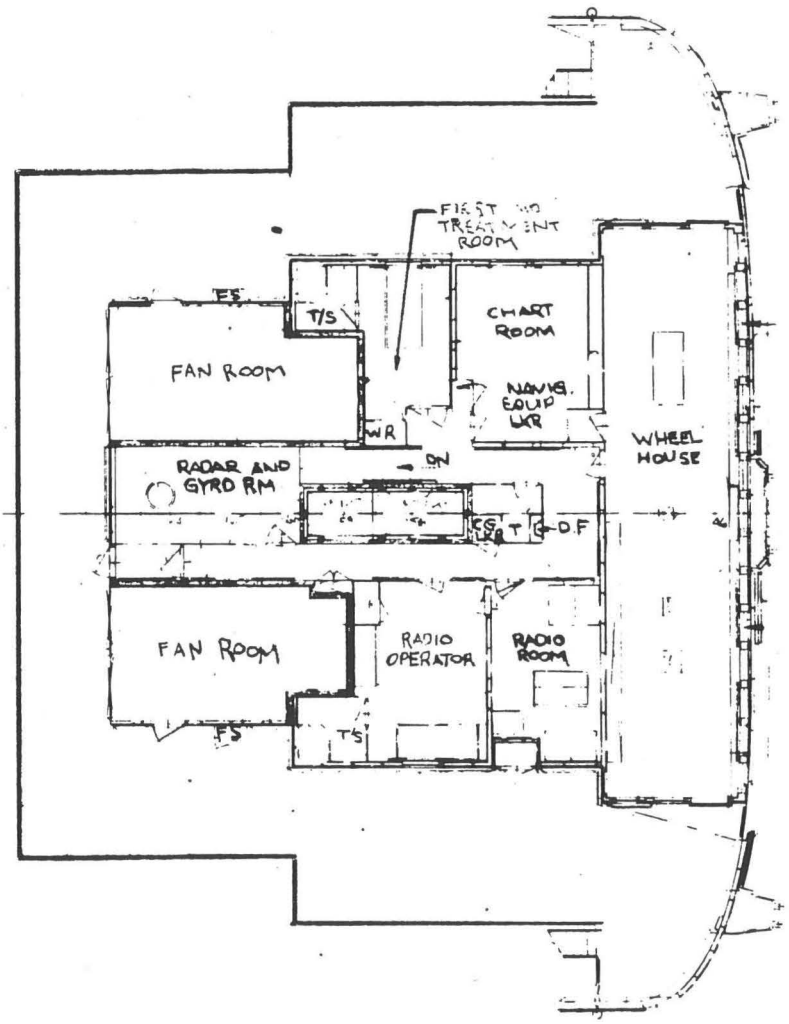
Berthing messing and abandon ship stations are indicated on the name tags.

All personnel not actually engaged in machinery tests and main propulsion tests involving main control are requested to stand clear of these spaces during tests. This is an absolute necessity to allow thorough and efficient operation of the plant, and the collecting of accurate data.

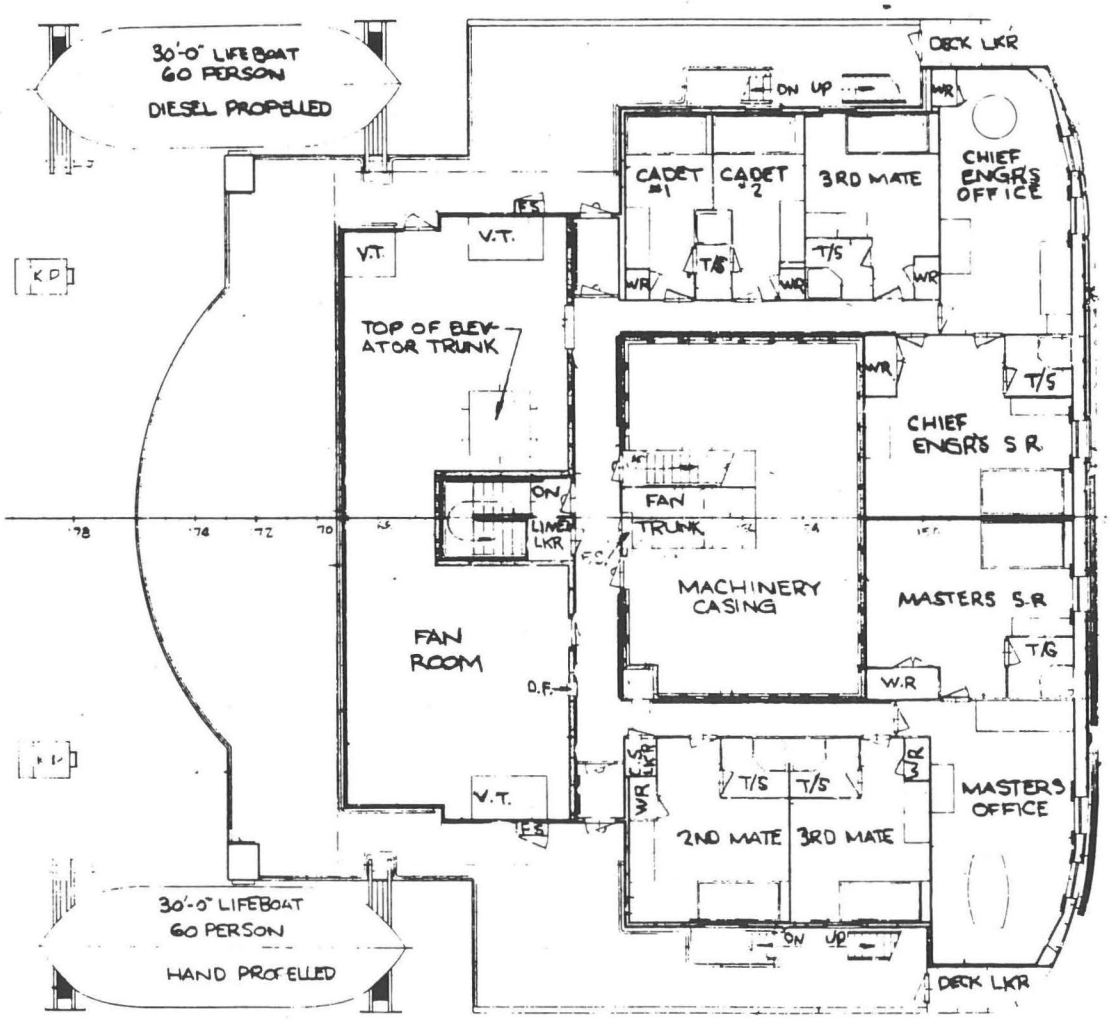
All personnel not actually engaged in tests or on watch are requested to stand clear of the bridge.

Quarters diagrams are attached to help trial personnel not familiar with the vessel.

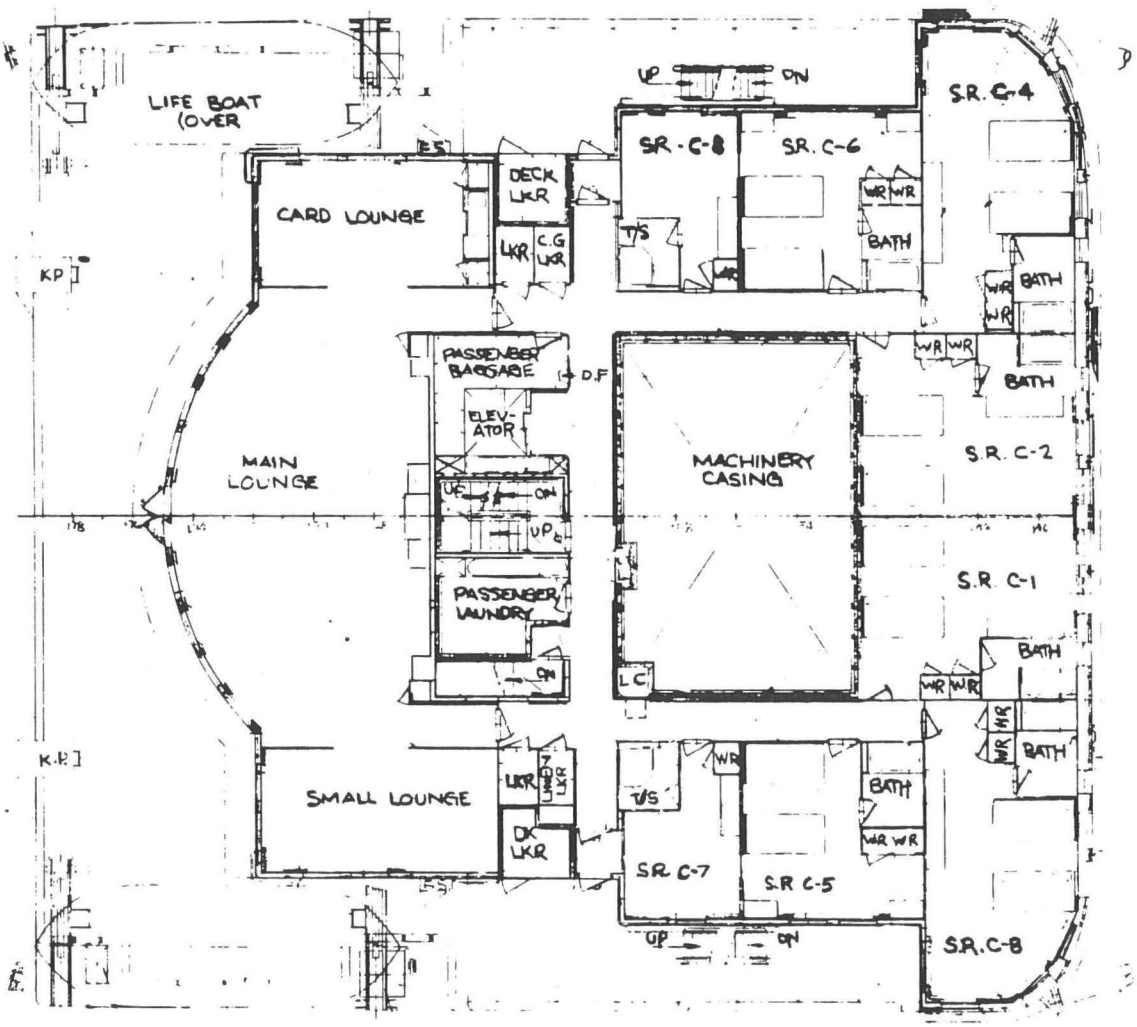
During Bridge Control and Boiler Maneuvering event, please assign the number of witnesses at the control boards to a minimum.


FIRST AID TREATMENT ROOM
FS
T/S
CHART ROOM
FAN ROOM
NAVIG. EQUIP LKR
WR
WHEEL HOUSE
DN
RADAR AND GYRO RM
CS
T
G
DF
FAN ROOM
RADIO OPERATOR
RADIO ROOM
FS
T/S

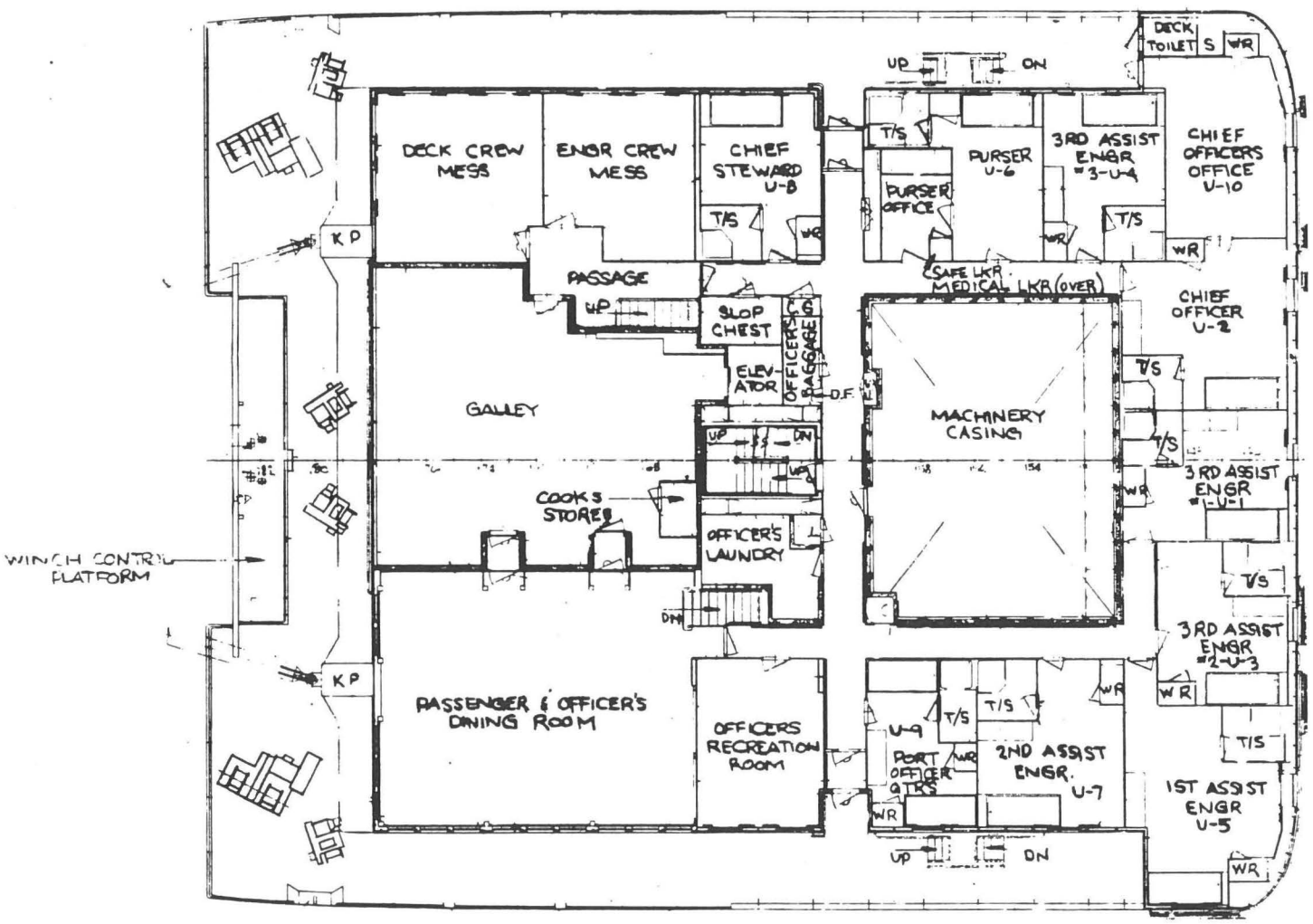
BRIDGE DECK


30'-0" LIFE BOAT
60 PERSON
DIESEL PROPELLED
DECK LKR
ON UP
WR
CADET #1
CADET #2
3RD MATE
CHIEF ENGR'S OFFICE
V.T.
F.S.
T/S
TOP OF ELEVATOR TRUNK
CHIEF ENGR'S S.R.
ON
LINEN LKR
FAN TRUNK
MACHINERY CASING
MASTERS S.R.
FAN ROOM
D.F.
W.R
2ND MATE
3RD MATE
MASTERS OFFICE
30'-0" LIFEBOAT
60 PERSON
HAND PROPELLED
DECK LKR

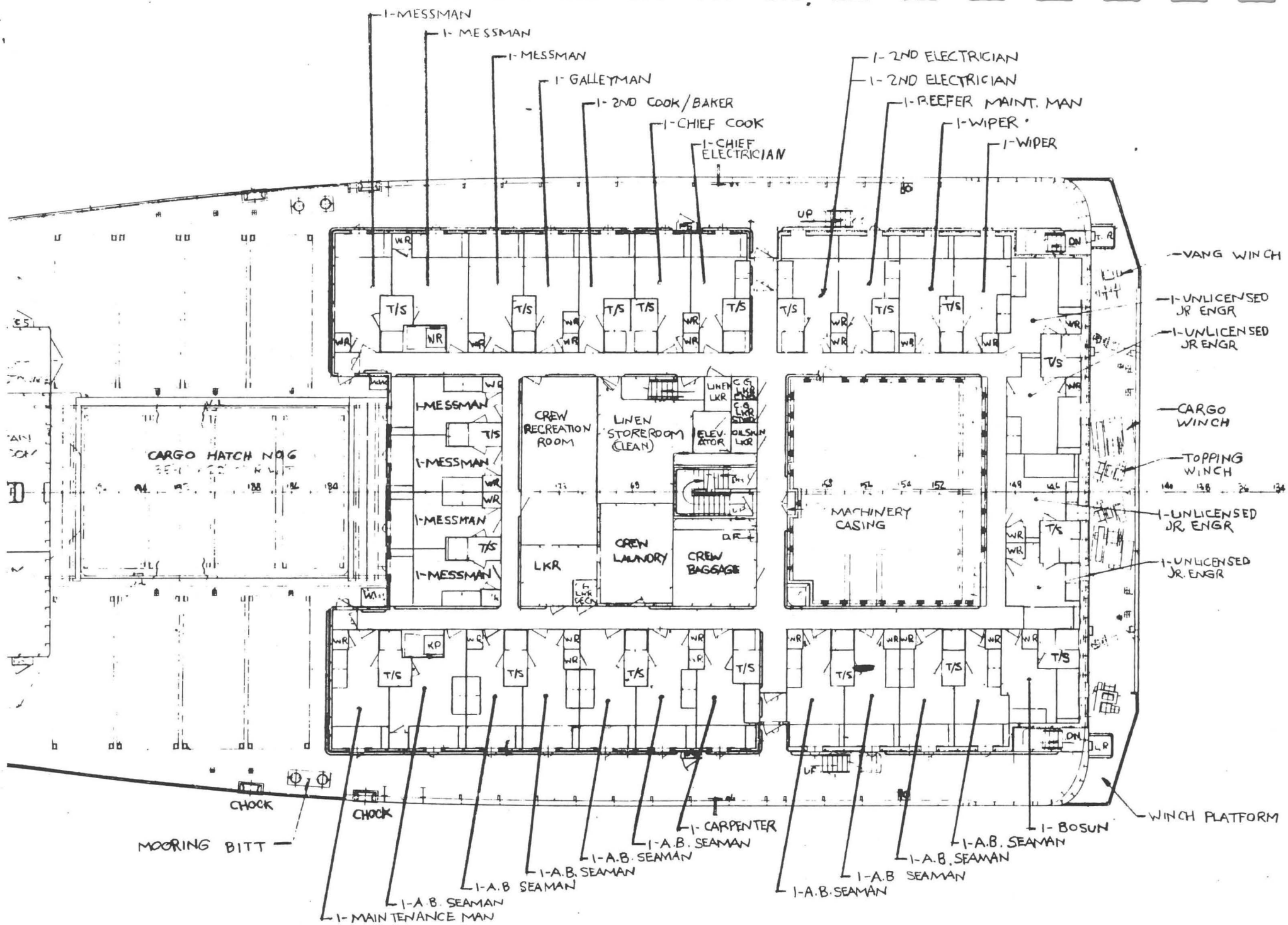
BOAT DECK


LIFE BOAT (OVER
CARD LOUNGE
KP
DECK LKR
LKR
C.G LKR
S.R. C-8
S.R. C-6
T/S
WR WR
BATH
S.R. C-4
BATH
WR WR
PASSENGER BAGGAGE
D.F
ELEV-ATOR
MAIN LOUNGE
MACHINERY CASING
S.R. C-2
S.R. C-1
PASSENGER LAUNDRY
LC
BATH
K.P
SMALL LOUNGE
LKR
LAUNDRY LKR
DK LKR
T/S
S.R C-7
S.R C-5
S.R.C-8
UP
DN

CABIN DECK


DECK TOILET
S
WR
UP
DN
DECK CREW MESS
ENGR CREW MESS
CHIEF STEWARD U-8
T/S
PURSER OFFICE
PURSER U-6
3RD ASSIST ENGR #3-U-4
CHIEF OFFICERS OFFICE U-10
KP
PASSAGE
SAFE LKR
MEDICAL LKR (OVER)
CHIEF OFFICER U-2
SLOP CHEST
OFFICERS BAGGAGE
ELEVATOR
D.F.
GALLEY
MACHINERY CASING
3RD ASSIST ENGR #1-U-1
COOKS STORES
OFFICER'S LAUNDRY
WINCH CONTROL PLATFORM
3RD ASSIST ENGR #2-U-3
PASSENGER & OFFICER'S DINING ROOM
OFFICERS RECREATION ROOM
U-9
PORT OFFICER Q TRS
2ND ASSIST ENGR. U-7
1ST ASSIST ENGR U-5

UPPER DECK


1-MESSMAN
1- MESSMAN
1-MESSMAN
1- GALLEYMAN
1- 2ND COOK/BAKER
1-CHIEF COOK
1-CHIEF ELECTRICIAN
1- 2ND ELECTRICIAN
1- 2ND ELECTRICIAN
1-REEFER MAINT. MAN
1-WIPER
1-WIPER
VANG WINCH
1-UNLICENSED JR ENGR
1-UNLICENSED JR ENGR
CARGO WINCH
TOPPING WINCH
1-UNLICENSED JR. ENGR
1-UNLICENSED JR. ENGR
CARGO HATCH NO 6
CREW RECREATION ROOM
LINEN STOREROOM (CLEAN)
ELEVATOR
MACHINERY CASING
CREW LAUNDRY
CREW BAGGAGE
LKR
1-MESSMAN
1-MESSMAN
1-MESSMAN
1-MESSMAN
CHOCK
CHOCK
MOORING BITT
1-MAINTENANCE MAN
1-A.B. SEAMAN
1-A.B SEAMAN
1-A.B. SEAMAN
1-A.B. SEAMAN
1-A.B. SEAMAN
1-CARPENTER
1-A.B. SEAMAN
1-A.B. SEAMAN
1-A.B SEAMAN
1-A.B. SEAMAN
1-A.B. SEAMAN
1-BOSUN
WINCH PLATFORM

# POOP DECK

| VOYAGE NO. | CONDITION: SEA TRIAL | SHEET 1 |
|---|---|---|

# LOADING SUMMARY

| ITEM | REMARKS | 1 FREE SURFACE (FT. TONS.) | 2 WEIGHTS (LONG TONS) | 3 V.C.G. AB. B.L. (FEET) | 4 VERTICAL MOMENTS (FT. TONS) | 5 L.C.G. ABOUT F.P (FEET) | 6 LONG'L MOMENTS (FT TONS) |
|---|---|---|---|---|---|---|---|
| LIGHT SHIP | | — | 8800 00 | 37 90 | | 310.70 | |
| CREW & PASSENGER EFFECTS | | — | 9.40 | 68·20 | | 164.10 | |
| CONSUMABLE STORES & PROVISIONS | | — | 35.40 | 51·90 | | 135·80 | |
| DIESEL OIL EMERGENCY TANK | | — | 2 00 | 47.50 | | 365·80 | |
| LUB OIL SETTLER & STORAGE | | 44 | 21.30 | 14.10 | | 407·20 | |
| DRY CARGO (FROM PAGE ____ ) | | — | — | | | | |
| CONTAINER LOADING (FROM PAGE ) | | — | — | | | | |
| TOTAL LIQUIDS IN TANKS (FRM. PAGE ) | | 15339 | 4554.90 | 13.28 | | 221.67 | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| DUNNAGE | | | | | | | |
| TOTAL → | | 15383 | 13423.0 | 29.56 | | 280.08 | |

| STABILITY DATA | FEET |
|---|---|
| KM$_T$ | 34.50 |
| KG FROM COLM 3 | 29.56 |
| GM (UNCORRECTED) | 4.94 |
| FREE SURFACE CORR'N | 1.14 |
| AVAILBLE GM (CORRECTED | 3.80 |
| MINIM. REQ'D GM FOR GRAIN | — |
| MINIM. REQ'D GM FOR DAMAGE | 2.67 |
| GM MARGIN | 1.13 |

NOTE:- IF LCG > LCB ABT. F.P THE SHIP TRIMS BY STERN.

NET FREE SURFACE CORRECTION IS OBTAINED BY DIVIDING SUM TOTAL OF FREE SURFACE MOMENTS BY TOTAL DISPLACEMENT OF SHIP

* WHEN CARRYING CONTAINERS USE MINIMUM REQ'D GM FOR CONTAINERS SEE PAGE 9

## HYDROSTATIC DATA

| | |
|---|---|
| TOTAL DISPLACEMENT = | 13423.0 TONS |
| MEAN KEEL DRAFT = | 21'-1" FT. |
| TONS PER INCH IMMERS'N = | 64.49 TONS |
| MOMENT TO CHANGE TRIM 1" = MT1 = | 1386 FT. TONS |
| L.C.F. ABOUT F.P = | 276.10 FT |
| L.C.B. ABOUT F.P. = | 266.40 FT |
| METACENT. HT. AB KEEL = KM$_T$ = | 34.50 FT |

## TRIM DATA

| | |
|---|---|
| L.C.G. ABT. FP = | 280.08 FT. |
| L.C.B. ABT. FP = | 266.40 FT. |
| LEVER = LC.G. ~ L.C.B = $\ell$ = | 13.68 FT. |
| TOTAL DISPLACEMNT = $\Delta$ = | 13423 TONS |
| TRIMMING MOMENT = $\Delta \times \ell$ = | 183627 FT TONS |
| MT1 = | 1386 FT TONS |
| TOTAL TRIM BY 132.48 INS = | 11'-0" FT |

(BY STERN)

| | |
|---|---|
| L.C.F. ABOUT F.P = | 276.10 FT. |
| LCF ÷ LBP (544.5') = | 0.50 |
| TRIM FOR'D = $\frac{LCF}{L.B.P} \times$ TOTAL TRIM = | 5'-6" FT. |
| TRIM AFT = TOT. TRIM - FORE TRIM = | 5'-6" FT. |
| FOR'D DRAFT MARK CORR'N = $\frac{4.5}{L.B.P.} \times$ TOTAL TRIM = | 0.09 FT |
| AFT. DRAFT MARK CORR'N = $\frac{26}{L.B.P.} \times$ TOTAL TRIM = | 0.53 FT |

| ITEM-SUMMARY | FT. FOR'D | FT. AFT |
|---|---|---|
| MEAN KEEL DRAFT | 21'-1" | 21'-1" |
| TRIM CORRECTION ± | (-) 5'-6" | (+) 5'-6" |
| DRAFT AT P.P. | 15'-7" | 26'-7" |
| DRAFT MARK CORR'N ± | 0'-1" | 0'-6" |
| | | |
| FINAL DRAFT AT MKS | 15'-8" | 26'-1" |

VOYAGE No. | CONDITION: SEA TRIAL | SHEET 2

## TANK DATA

| | TANK | VOLUME (CU. FT. GALLONS) | CAPACITY L. TONS: FUEL OIL 98% FULL | CARGO OIL 98% FULL | SALT WATER 100% FULL | MUD 100% FULL | FRESH WATER 100% FULL |
|---|---|---|---|---|---|---|---|
| FUEL OIL TANKS | DEEP TANK NO 1 C.L | 12047 | 438.2 | | | | |
| | DEEP TANK NO. 2 P & S | 154304 | 561.5 | | | | |
| | DEEP TANK NO. 5 P & S. | 39580 | 144.0 | | | | |
| | DEEP TANK NO 7 P & S | 117961 | 429.2 | | | | |
| | D. BOTTOM TANK NO. 3 C.L | 38120 | 211.5 | | | | |
| | D. BOTTOM TANK NO 4 C.L | 56250 | 204.7 | | | | |
| | D. BOTTOM TANK NO 5 C.L | 54156 | 197.1 | | | | |
| | D BOTTOM TK-MACHY P & S. | 65532 | 238.5 | | | | |
| | FUEL OIL SETTLER P & S | 79942 | 290.9 | | | | |
| BALLAST TANKS | FORE PEAK TANK | 60633 | | | 231.6 | | |
| | D. BOTTOM NO 2 P & S | 50330 | | | 192.2 | | |
| | D BOTTOM NO 3 P & S OUTB'D | 62226 | | | 237.7 | | |
| | D BOTTOM NO 4 P & S OUTB'D | 112428 | | | 429.4 | 100.6 | |
| | D. BOTTOM NO 5 P & S OUTB'D | 86418 | | | 330.0 | | |
| | AFTER PEAK TANK | 44617 | | | 170.4 | | |
| CARGO OIL TANK | DEEP TANK NO 3 P & S | 127010 | | 416.0 | | | |
| | DEEP TANK NO 4 P & S. | 131888 | | 431.9 | | | |
| | DEEP TANK NO 8 C.L | 47451 | | 155.4 | | | |
| CREW TK | DEEP TANK NO 6 PORT | 17018 | | | | | 63.4 |
| FRESH WATER TANKS | POTABLE WATER TK No 1 P & S. | 25706 | | | | | 95.4 |
| | POTABLE WATER TK. NO 2 P & S | 31312 | | | | | 116.3 |
| | ANTI ROLL TANK | 75769 | | | | | 281.3 |
| | DISTILLED WATER C.L | 29770 | | | | | 110.5 |
| | TOTALS :- | | 2715.6 | 1003.3 | 1591.3 | 1006.6 | 666.9 |

V.C.G AT OPERATING LEVEL OF 150 00 TONS = 38.91 ft.

## TANK LOADING

| | REMARKS OR CONTENTS | FREE * SURFACE | WEIGHT IN LONG TONS: FUEL OIL | CARGO OIL | SALT WATER | MUD | FRESH WATER | V.C.G FT | VERTICAL MOMENT FT TONS | L.C.G TO A.P FT. | LONG'L MOMENT FT TONS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| DEEP TANK NO 1 C.L | 100% | | | | | | 447.1 | 21.80 | | 45.7 | |
| DEEP TANK NO. 2 P & S | 100% | | | | | | 572.9 | 16.41 | | 78.1 | |
| DEEP TANK NO. 5 P & S. | | | | | | | | 30.93 | | 420.5 | |
| DEEP TANK NO 7 P & S | | | | | | | | 10.88 | | 450.0 | |
| D. BOTTOM TANK NO. 3 C.L | 100% | | | | | | 215.8 | 2.59 | | 188.6 | |
| D. BOTTOM TANK NO 4 C.L | 100% | | | | | | 208.9 | 2.58 | | 257.3 | |
| D. BOTTOM TANK NO 5 C.L | 100% | | | | | | 201.1 | 2.58 | | 323.5 | |
| D BOTTOM TK-MACHY P & S. | 100% | | | | | | 243.3 | 2.93 | | 380.2 | |
| FUEL OIL SETTLER P & S | 98% | 194 | 290.9 | | | | | 24.65 | | 419.5 | |
| FORE PEAK TANK | 100% | | | | | | 225.3 | 13.26 | | 10.8 | |
| D. BOTTOM NO 2 P & S | 100% | | | | | | 186.9 | 2.94 | | 127.0 | |
| D BOTTOM NO 3 P & S OUTB'D | 100% | | | | | | 231.1 | 3.01 | | 195.0 | |
| D BOTTOM NO 4 P & S OUTB'D | 100% | | | | | | 417.5 | 2.77 | | 258.4 | |
| D. BOTTOM NO 5 P & S OUTB'D | 100% | | | | | | 320.9 | 2.88 | | 319.7 | |
| AFTER PEAK TANK | 100% | | | | | | 165.7 | 28.10 | | 530.1 | |
| DEEP TANK NO 3 P & S | 100% | | | | | | 471.6 | 16.80 | | 112.1 | |
| DEEP TANK NO 4 P & S. | | | | | | | | 16.87 | | 140.1 | |
| DEEP TANK NO 8 C.L | | | | | | | | 29.02 | | 492.4 | |
| DEEP TANK NO 6 PORT | | | | | | | | 16.17 | | 427.2 | |
| POTABLE WATER TK No 1 P & S. | 100% | 373 | | | | | 95.4 | 40.44 | | 406.0 | |
| POTABLE WATER TK. NO 2 P & S | | | | | | | | 40.21 | | 404.7 | |
| ANTI ROLL TANK | | 14772 | | | | | 150.0 | 38.67 | | 417.2 | |
| DISTILLED WATER C.L | 100% | | | | | | 110.5 | 30.11 | | 423.2 | |
| | | 15339 | 290.9 | | | | 4264.0 | 13.28 | | 224.27 | |

TOTAL LIQUIDS = 4558.9

NOTE * LARGEST SINGLE TANK OR PAIR OF TANKS MAY BE SHOWN FULL BUT LARGEST TANK MAY BECOME SLACK ALMOST IMMEDIATELY. THEREFORE SLACK FREE SURFACE SHOULD BE INDICATED SEE ALSO "TANK SUMMARY TABLE" AND "GENERAL INSTRUCTIONS"

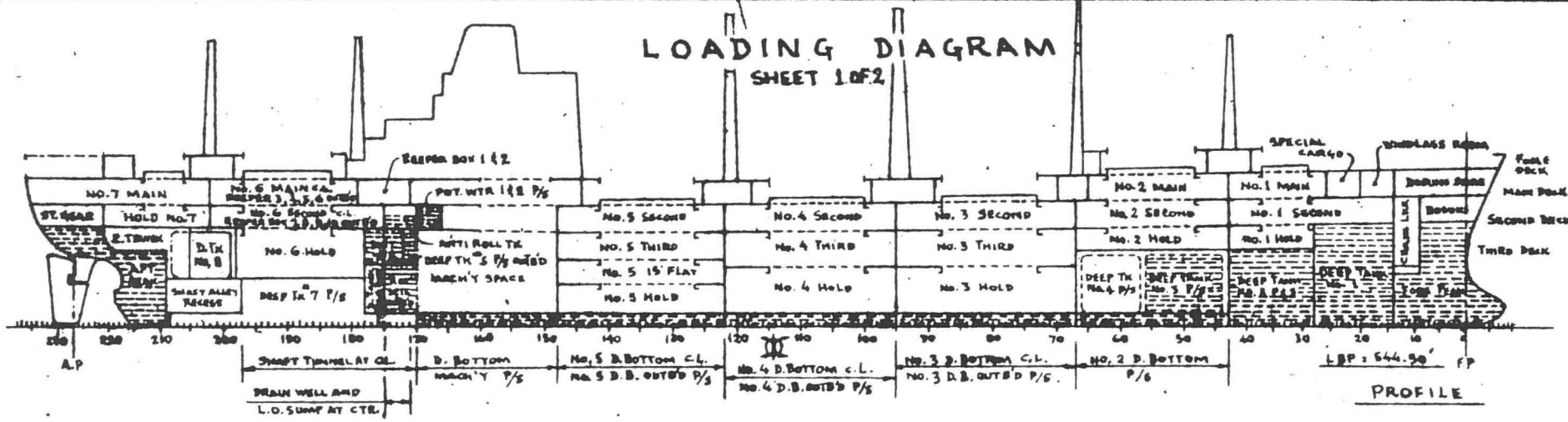
PERCENT FUEL = 0. * L TONS = LT

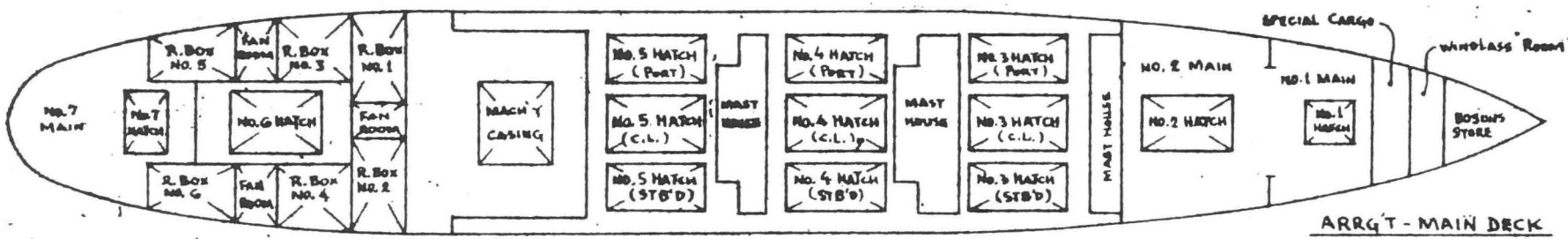
ENTER TOTALS TO PAGE:

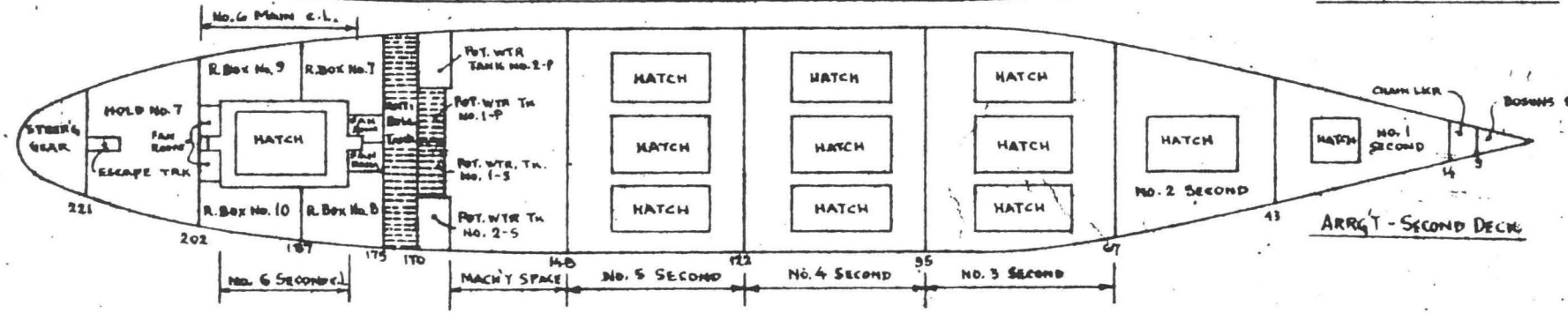
| VOYAGE NO. ____ | CONDITION: SEA TRIAL | SHEET 3 |
|---|---|---|

# LOADING DIAGRAM

SHEET 1 OF 2



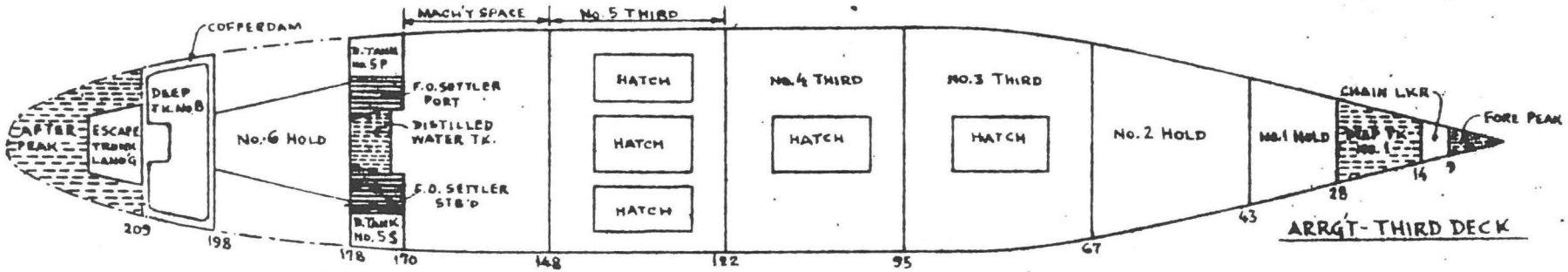



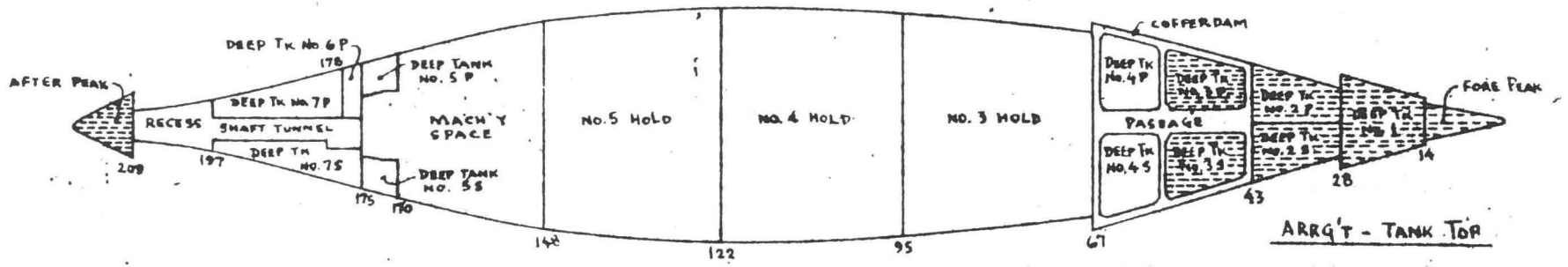

C6-700

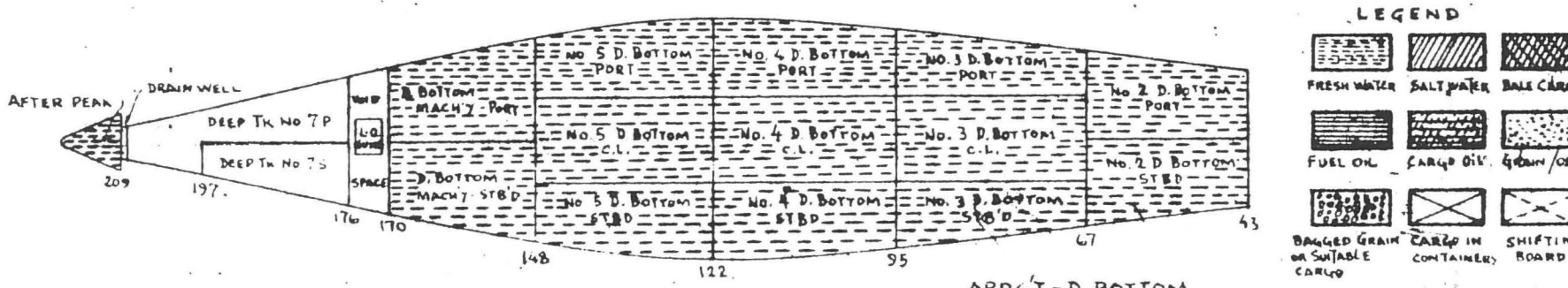
| VOYAGE No. _____ | CONDITION: SEA TRIAL | SHEET 4 |
|---|---|---|

# LOADING DIAGRAM

## SHEET 3 OF 3




LEGEND




C6-700

M.A. HULL 210 S. S. COLORADO ASI HULL 1126

SEA TRIAL

| DATE & TIME | EVENT NO. | DESCRIPTION |
|---|---|---|
| 1ST DAY | | |
| 1200 | 1 | ENERGIZE GYRO & ELECTRONICS EQUIPT., FOUR (4) HOURS PRIOR TO GETTING UNDERWAY. LIGHT OFF BOILERS & PLANT IN ACCORDANCE WITH OPERATING CHIEF ENGR. ORDERS. |
| 1200 | 2 | SOUND ALL TANKS. RECORD DRAFT READINGS. MAKE COPY AVAILABLE TO BRIDGE, MARAD & OWNERS REPS. |
| 1400 | *3 | MAKE ALL PREPARATIONS FOR GETTING UNDERWAY. |
| 1530 | *4 | TEST NAVIGATION & STEERING GEAR. |
| 1600 | *5 | DEPART A.S. INC. |
| 2ND DAY | | |
| 0000 | *6 | CLEAR SO. PASS; START DISTILLERS FOR CAPACITY TESTS. CALIBRATE RDF. CALIBRATE MAGNETIC COMPASS & GYRO COMPASS. CONDUCT VIBRATION SURVEY AS REQUIRED THROUGHOUT TRIAL. |
| 0130 | 7 | DRAG SHAFT. ZERO TORSIONMETER (20 RPM AHEAD; 30 RPM ASTERN) |
| 0200 | 8 | SET AND BALANCE PLANT FOR ECONOMY RUNS |
| 0400 | *9 | CONDUCT THE FOLLOWING ECONOMY TRIALS:<br>ONE (1) HOUR AT 21,000 SHP (NON-EXTRACTING STEAM RATE)<br>TWO (2) HOURS AT 24000 SHP (FUEL RATE)<br>FOUR (4) HOURS AT 21,000 SHP (FUEL RATE)<br>DEMONSTRATE BOILERS WITH LOW EXCESS AIR. |
| 1300 | 10 | DRAG SHAFT. ZERO TORSIONMETER (20 RPM AHEAD; 30 RPM ASTERN) |
| 1400 | *11 | CONDUCT ONE (1) HOUR ASTERN RUN.<br>LAST FIFTEEN MINUTES CONDUCT ASTERN STEERING |
| 1515 | *15 | CONDUCT TURNING CIRCLES AT 24000 SHP |
| 1530 | *13 | CONDUCT "Z" MANEUVERS AT 24,000 SHP |
| 1600 | *14 | CONDUCT AHEAD STEERING AT 24,000 SHP |
| 1630 | *15 | CONDUCT ABC WASHDOWN |
| 1715 | *16 | CONDUCT CRASH ASTERN FROM 24,000 SHP THEN CRASH AHEAD |
| 1745 | *17 | CONDUCT EMERGENCY STEERING |

SEA TRIAL

| DATE & TIME | EVENT NO. | DESCRIPTION |
|---|---|---|
| 1815 | * 18 | Conduct Bridge Control & Boiler Maneuvering |
| 2015 | * 19 | Demonstrate Flume Stabilization System. |
| 2215 | * 20 | Commence Anchor Handling. Demonstrate in 60 fathoms |
| 2315 | * 21 | Arrive So. Pass.<br>Demonstrate Emergency Cooling of Main Condenser. |
| 3rd. DAY | | |
| 0800 | * 22 | Arrive A.S. Inc. |

* Events marked with asterisk have an explanation and/or data sheet attached.

VESSEL: COLORADO

EVENT NO. 3 & 4

DATE: 1st Day

CREW: As Assigned

INSTRUCTIONS:

All personel shall be on board one-half ($\frac{1}{2}$) hour prior to getting underway.

Prior to 1600 complete all preparations for getting underway. Warm up main engine and second ship service generator. One (1) generator to be on line.

Dock line-handlers shall be standing-by.

Test the following circuits operationally thirty (30) minutes prior to getting underway:

Engine Order Telegraph
I.C. Circuits
Running, Anchor and Signal Lights
All Alarms (Including General Alarm)
Steam Whistle
Bridge Control

Test steering gear.

Synchronize all clocks.

Watch Engineer request permission from Bridge to turn engine with turning gear while lighting off main plant. Bridge will insure propeller is clear. Prior to warming engine and disengaging jacking gear, notify Bridge. Check gyro repeaters against master gyro. Operating Chief Engineer will notify the Captain on the Bridge when "Ready to Answer all Bells".

VESSEL: COLORADO

EVENT NO. 5

DATE: 1st Day

CREW: As Assigned

INSTRUCTIONS:

Depart Avondale Shipyards. Proceed to Gulf of Mexico

All hands will familiarize themselves with their assigned fire and abandon ship stations.

All hands check their spaces for loose gear etc. prior to reaching the Gulf.

Data takers will meet with Test Engineers in Chief Engineers office at 6:45 P.M. for briefing.

Test Engineers and data takers will check out all Engine Room instrumentation to assure satisfactory operation, prior to reaching the Gulf.

VESSEL: COLORADO

EVENT NO. 6

DATE: 2nd Day

CREW: Watch Engineer in Charge

Distilling Plant Operator

RDF Representative

Test Engineers

INSTRUCTIONS:

After clearing South Pass, start up low pressure distilling plants. Calibrate RDF and magnetic compass. Test Engineers make "Walk Through" check of ship for vibration. Wherever excessive vibration is apparent, check with instruments and make results available to Project Manager.

The following instruments will be available on board:

ASKANIA (Portable W/ tape)

IRD (Portable)

VESSEL: COLORADO

EVENT NO. 9

DATE: 10 July 1968

CREW: Operating Crew

Test Engineer

Data Takers

INSTRUCTIONS:

Conduct the Following:

* One (1) hour @ 21,000 SHP (non-extracting steam rate)

** Four (4) hours @ 21,000 SHP (Fuel rate)

*** Two (2) hours @ 24,000 SHP (Fuel rate)

* During the non-extraction steam rate test operate distillers on 5# steam.

** For 21,000 SHP Fuel Rate, operate one distiller on bleed steam.

*** For 24,000 SHP Fuel rate, operate the second distiller on bleed steam.

FUEL OIL CONSUMPTION (ECONOMY) TRIALS

A. Ship is to be ballasted to maximum obtainable displacement to develop the maximum rated 24,000 SHP while operating in deep water.

B. Fifteen minute data readings to be used for calculations are to be taken for each specified horsepower rating.

C. During 24,000 SHP and 21,000 SHP trial runs a representative fuel oil sample is to be taken, to be used to determine the actual heat value as corrected per contract specifications.

D. During the trial runs alternate propulsion auxiliaries shall be used to enable plant evaluation using each piece of auxiliary equipment.

E. The trial runs will be conducted under the following conditions:

1. Main boilers operating at design superheater outlet pressure.
2. Main boilers operating at design superheater outlet temperatures @ 21,000 SHP & 24,000 SHP.
3. All auxiliaries necessary to main propulsion in operation, as shown on heat balance contract plan.
4. One distilling plant operating at approx. 12,000 gallons per day.
5. Refrigerated stores plant operating under normal conditions.
6. Electric generating plant providing all normal services.
7. Air conditioning and heating systems operating to suit outside weather conditions.
8. All normal domestic services in operation.

F. Fuel rate measured on 21,000 SHP & 24,000 SHP trials to be corrected to the following conditions:

| | 21,000 | 24,000 SHP |
|---|---|---|
| F.O. Higher Htg. Value of 18,546 BTU | - | - |
| Electrical Load | 600 KW | 650 KW |
| Distilling Plant Load | 10800 GPD | 11,300 GPD |
| Main Turbine Condenser Vacuum | 28.42 "Hg | 28.33 "Hg |
| Suphtr. Outlet Steam Pressure | 870 PSIG | 877 PSIG |
| Suphtr. Outlet Steam Temperature | 955 $^{o}$F | 955 $^{o}$F |
| Contaminated Steam Load | 562 #/hr. | 614#/hr. |

## Engine Room Operating Data and Reports

### A. Data Recording

1. With plant in operation, readings on all gages, thermometers and recording instruments, as listed on data sheets, shall be taken at least every 30 minutes. Fifteen minute readings will be recorded of specific data required for calculations.
2. Data takers shall take readings upon signal from Torsionmeter Room for 15 minute data sheets. 30 minute data recording will coincide with start of each evolution.
3. Fifteen minute data sheets will be picked up by runner as each set is completed to maintain running check on plant conditions.
4. Test Engineer shall take main sump lube oil sample at completion of full power trials. Oil shall be visually inspected after settling for a number of hours, for sediment and moisture globules.
5. All readings shall be taken accurately and on time. When a gage, thermometer or instrument is broken or if it seems to be recording inaccurately notify Test Engineer.
6. Data takers along with all watchstanders shall observe for and report steam, fuel, lube oil, control air and water leaks, and any unusual sounds and vibrations.
7. Watchstanders, including data takers, shall stand their watches where designated and shall not leave until relieved by capable authority.
8. All data sheets shall be as complete as possible with time, date, run and signed by data taker.

B. Plant Operation

1. In case of any malfunction of equipment in engineering spaces notify the Operating Chief Engineer.
2. Where it is necessary to slow down or stop the main engine the bridge shall be notified immediately.
3. Maintain design pressures and temperatures as closely as possible.
4. Machinery shall not be started or stopped (except in emergency) without permission of the Operating Chief Engineer.
5. At intervals as designated by the Operating Chief Engineer, L.O. and F.O. strainers shall be shifted, checked and cleaned as necessary.
6. Bearing oil sight flows shall be frequently checked.

C. Reports

1. One copy of the complete trial data shall be furnished to each, the Maritime Administration and Design Agent, immediately after completion of trials.
2. A complete trial report shall be submitted, in accordance with Maritime Administration format, for approval within 60 days after delivery of the ship.

VESSEL: COLORADO

EVENT NO. 11

DATE: 2nd Day

CREW: Operating Crew

Test Engineer

Data Takers

INSTRUCTIONS:

Astern full power shall be continous for one (1) hour.

Data recorders will take 1st reading at start and at

15 minute intervals. The 45 minute data will be

recorded before starting astern steering test.

Maintain constant check on all components; in particular,

plant vacuum, turbine and reduction gear bearing temperatures.

Astern Power will be at 74 RPM.

Steam at 850 PSIG, 950$^{o}$F.

Vacuum not to exceed 27".

SEA TRIALS

STEERING TESTS

AHEAD STEERING

| Unit /S | Degrees | Stbd | Port | To Degrees | Stbd | Port | Elapsed Time | Max.Ram Pressure | Max.Motor Input Amps A | B | C | Volts |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S | 35° | Stbd | --- | 0° | --- | Port | | --- | - | - | - | --- |
| S | 35° | Stbd | --- | 30° | --- | Port | | --- | - | - | - | --- |
| S | 35° | Stbd | --- | 35° | --- | Port | | | | | | |
| S | 35° | --- | Port | 0° | Stbd | --- | | --- | - | - | - | --- |
| S | 35° | --- | Port | 30° | Stbd | --- | | --- | - | - | - | --- |
| S | 35° | --- | Port | 35° | Stbd | --- | | | | | | |
| P | 35° | Stbd | --- | 0° | --- | Port | | --- | - | - | - | --- |
| P | 35° | Stbd | --- | 30° | --- | Port | | --- | - | - | - | --- |
| P | 35° | Stbd | --- | 35° | --- | Port | | | | | | |
| P | 35° | --- | Port | 0° | Stbd | --- | | --- | - | - | - | --- |
| P | 35° | --- | Port | 30° | Stbd | --- | | --- | - | - | - | --- |
| P | 35° | --- | Port | 35° | Stbd | --- | | | | | | |

ASTERN STEERING

| Unit /S | Degrees | Stbd | Port | To Degrees | Stbd | Port | Elapsed Time | Max.Ram Pressure | Max.Motor Input Amps A | B | C | Volts |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S | 35° | Stbd | --- | 30° | --- | Port | | --- | - | - | - | --- |
| S | 35° | Stbd | --- | 35° | --- | Port | | | | | | |
| S | 35° | --- | Port | 30° | Stbd | --- | | --- | - | - | - | --- |
| S | 35° | --- | Port | 35° | Stbd | --- | | | | | | |

EMERGENCY STEERING

Normal steering to Emergency steering-two cyls.cut out

Changeover Elapsed Time _____

Hardover to Hardover P/S Elapsed Time _____ Max. Oil Press._____ Max.Mtr.Input _____

Hardover to Hardover S/P Elapsed Time _____ Max. Oil Press._____ Max.Mtr.Input_____

15 degrees to 15 degrees P/S Elapsed Time _____

15 degrees to 15 degrees S/P Elapsed Time _____

## Steering Tests (Ahead-Astern-Emergency)

### A. Ahead Steering

1. With vessel proceeding ahead on a straight course at 106 RPM rudder shall be brought hardover to stbd. or port. From the hardover position rudder shall be brought hardover in the opposite direction. This shall be done from port to stbd and from stbd to port using each electro-hydraulic steering unit, at a rate of not less than 2-1/3 degrees per second.

2. Record the following:
   a) Hardover stbd/port to 30° port/stbd elapsed time
   b) Maximum ram oil pressure
   c) Maximum motor input (amps/volts)

### B. Astern Steering

1. With vessel proceeding astern, approximately straight course, at normal astern RPM, rudder shall be brought hardover to stbd or port. From the hardover position rudder shall be brought hardover in the opposite direction. This shall be done from port to stbd and from stbd to port using one electro-hydraulic steering unit, at no specified time.

2. Record the following:

   a) Hardover stbd/port to hardover port/stbd elapsed time
   b) Maximum ram oil pressure
   c) Maximum motor input (amps/volts)

### C. Emergency Steering

1. With vessel proceeding ahead on a straight course at 51 RPM demonstrate use of one ram independently.

2. Record the following:

   a) Elapsed time required for changeover
   b) Elapsed time hardover to hardover
   c) Maximum ram oil pressure
   d) Maximum motor input
   *e) 15 degrees to 15 degrees (Record Time) P/S - S/P

* 15° to 15° not to exceed 60 seconds.

VESSEL: COLORADO

EVENT NO: 12

DATE: 2nd DAY

CREW: OPERATING CREW

TEST ENGINEERS (3)

RADARMAN

INSTRUCTIONS:

Target will be placed in water with ship at slow speed prior to commencing event.

With ship proceeding on straight course ahead at 24,000 SHP bring rudder hardover to Port; closing circle.

Record:

a) Shaft RPM beginning of maneuver.

b) Elapsed time _____ from start to close of circle to Port.

c) Diameter of circle _____.

Repeat circling procedure to Stbd from straight course.

Record:

a) Shaft RPM beginning of maneuver.

b) Elapsed time _____from start to close of circle to stbd.

c) Diameter of circle _____.

Plot will be made by use of Radar on target.

Upon completion of event, recover target.

VESSEL: COLORADO

EVENT NO. 13

DATE: 2nd Day

CREW: Operating Crew

Test Engineers (3)

INSTRUCTIONS:

With vessel on a straight course proceeding at 24,000 SHP at given signal commence as follows:

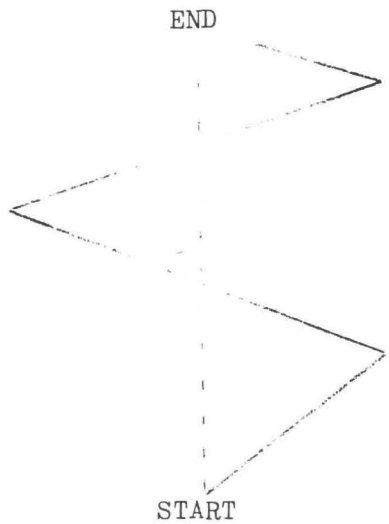
a) Right Rudder 20 degrees
Hold at this angle until heading is $20^{o}$ right of original course.

b) At this instant bring rudder to left 20 degrees.
Hold at this angle until heading is $20^{o}$ left of original course.

c) At this instant bring rudder over to right 20 degrees.
Hold at this angle until heading is $20^{o}$ right of original course.

d) Put rudder over to left $20^{o}$ until ship has returned to original course.

Record elapsed time_____beginning to end of maneuver.



VESSEL: _____ DATE: _____

TIME: _____

24,00 SHP - Z Maneuver

RECORDING SHEET

Plotting

| | Time Actual | | Time | | Course |
|---|---|---|---|---|---|
| Start: | Min. | Sec. | Min. | Sec. | |
| 1. Rudder at 20° Stbd. | | | | 00 | |
| | | | | 20 | |
| 2. Rudder leaves 20 Stbd. | | | | 30 | |
| | | | | 40 | |
| 3. Rudder at 20° Port: | | | | 50 | |
| | | | 1 | 00 | |
| 4. Rudder leaves 20° Port | | | | 10 | |
| | | | | 20 | |
| 5. Rudder at 20° Stbd. | | | | 30 | |
| | | | | 40 | |
| 6. Rudder leaves 20° Stbd. | | | | 50 | |
| | | | 2 | 00 | |
| 7. Rudder at 20° Port. | | | | 10 | |
| | | | | 20 | |
| 8. Ship on original course | | | | 30 | |
| | | | | 40 | |
| | | | | 50 | |
| | | | 3 | 00 | |
| | | | | 10 | |
| | | | | 20 | |
| | | | | 30 | |
| | | | | 40 | |
| | | | | 50 | |
| | | | 4 | 00 | |
| | | | | 10 | |
| | | | | 20 | |
| | | | | 30 | |
| | | | | 40 | |
| | | | | 50 | |
| | | | 5 | 00 | |

VESSEL: COLORADO

EVENT NO. 14

DATE: 2nd DAY

CREW: OPERATING CREW

MACHINIST

VENDORS REP.

TEST ENGINEERS

INSTRUCTIONS:

Conduct ahead steering test with ship proceeding ahead at 24,000 SHP, as follows:

Hardover stbd to port, hardover port to stbd using each electro-hydraulic unit.

Further instructions and data sheet inserted after Event No. 11.

VESSEL: COLORADO

EVENT NO. 15

DATE: 2nd Day

CREW: As Assigned

INSTRUCTIONS:

Conduct Washdown Countermeasure. Maneuver in 360 $^{o}$ turn, approximately 10 knots. All fire pumps are to be in use for this event. Survey coverage, note dry areas for possible relocation of brackets. Demonstration of modified locations need not be made.

VESSEL: COLORADO

EVENT NO. 16

DATE 2nd DAY

CREW: OPERATING CREW
TEST ENGINEER ON BRIDGE
TEST ENGINEER IN E.R.
MAN AT FWD. STATION
MAN AT AFT STATION

INSTRUCTIONS:

Station bowmen & sternmen with marker bouys prior to event. Upon word from the bridge "Crash Astern" from 24,000 SHP ahead. Man at fwd. station, upon signal from the bridge, will throw overboard a marker buoy. When buoy reaches aft station, man assigned will signal fwd. station to throw second buoy. This procedure will continue until ship is "dead in water". When ship is making normal power astern "crash astern" will be complete.

Upon word from the Bridge "crash ahead" from normal power (74 RPM) astern. Man at aft station, upon signal from the bridge, will throw overboard a marker buoy. When buoy reaches fwd. station, man assigned will signal aft station to throw second buoy. This procedure will continue until ship is "dead in water". When ship is making normal power ahead "crash ahead" will be complete.

# CRASH STOP ASTERN

POSITION:

DATE:

BASE COURSE:

RELATIVE DIRECTION OF WIND AT START: _____

DISPLACEMENT:

TIME OF DAY AT START:

CONDITION OF SEA:

LOCATION OF FWD STATION: _____

LOCATION OF AFT STATION: _____

DISTANCE BETWEEN STATIONS: _____

RPM AT START: _____

TIME TO STOP SHAFT _____SECONDS

TIME TO 20RPM ASTERN _____SECONDS

TIME TO 30 RPM ASTERN _____SECONDS

TIME TO 40 RPM ASTERN _____SECONDS

TIME TO 50 RPM ASTERN _____SECONDS

TIME TO 60 RPM ASTERN _____SECONDS

TIME TO 67 RPM ASTERN_____SECONDS

ELAPSED TIME TO STOP SHIP: _____

ELAPSED TIME FROM FULL AHEAD TO FULL ASTERN: _____

AHEAD REACH FEET: _____

MAXIMUM ASTERN THROTTLE PRESSURE, PSIG: _____

STEADY ASTERN THROTTLE PRESSURE, PSIG: _____

MAXIMUM TEMPERATURE OF L. P. CASING $^{o}$F: _____

# CRASH STOP AHEAD

POSITION:

DATE:

BASE COURSE:

RELATIVE DIRECTION OF WIND AT START: _____

DRAFT:

DISPLACEMENT:

TIME OF DAY AT START: _____

CONDITION OF SEA:

LOCATION OF FWD STATION: _____

LOCATION OF AFT STATION: _____

DISTANCE BETWEEN STATIONS: _____

RPM AT START: _____

TIME TO STOP SHAFT _____SECONDS

TIME TO 20 RPM AHEAD _____SECONDS

TIME TO 50 RPM AHEAD _____SECONDS

TIME TO 80 RPM AHEAD _____SECONDS

TIME TO 106 RPM AHEAD _____SECONDS

ELAPSED TIME TO STOP SHIP: _____

ELAPSED TIME FROM FULL ASTERN TO FULL AHEAD: _____

ASTERN REACH - FEET: _____

VESSEL: COLORADO

EVENT NO. 17

DATE: 2nd DAY

CREW: OPERATING CREW

MACHINIST

VENDORS REP.

TEST ENGINEERS

INSTRUCTIONS:

With vessel proceeding ahead at 51 RPM conduct Emergency steering. Further instructions and data sheet are inserted after Event No. 11.

VESSEL: COLORADO

EVENT NO. 18

DATE: 2nd Day

CREW: OPERATING CREW

TEST ENGINEERS

INSTRUCTIONS:

A. Operator will perform the following:

1. Place mode selector in "Maneuvering" position
2. Set speed rheostat at approx. 80%
3. Ascertain proper setting of combustion controls
4. All burners firing

B. Effect transfer from Bridge to E.R. control.

C. Effect transfer from E.R. to Bridge control.

D. Operate from all throttle control positions & record in accordance with data sheet. Event shall be started with ship essentially stopped.

# BRIDGE CONTROL AND BOILER MANEUVERING

1. TRANSFER TO BRIDGE CONTROL

   A. ENGINE ROOM OPERATOR PLACES TRANSFER SWITCH TO "BRIDGE".

   B. BRIDGE CONSOLE BUZZER SOUNDS, "TRANSFER INCOMPLETE" LIGHTS.

   C. BRIDGE PLACES TRANSFER SWITCH TO "BRIDGE" POSITION.

   D. IMMEDIATELY "TRANSFER-INCOMPLETE" LIGHT GOES OUT AND BUZZER IS SILENCED, "ENGINE ROOM CONTROL" LIGHT GOES OUT AND "BRIDGE CONTROL" LIGHTS.

2. SHAFT STOPPED ALARM

   A. SHAFT STOPPED FOR TWO (2) MINUTES WILL CAUSE;

      1. SHAFT STOPPED ALARM SOUNDS AND FLASHING INDICATORS ON BRIDGE AND ENGINE ROOM CONSOLE LIGHT.

   B. MOVING SHAFT WILL SILENCE ALARM AND LIGHTS WILL GO OUT.

3. "MANEUVERING" TO "AT SEA" MODE

   A. OPEN SEA SCOOP WITH E.R. CONSOLE PUSHBUTTON.

   B. PLACE SELECTOR SWITCH IN "AT SEA" POSITION.

   C. "AT SEA" INDICATOR LIGHTS ON BRIDGE CONSOLE.

   D. STOP MAIN CIRCULATOR WITH E.R. CONSOLE PUSHBUTTON. CLOSE MAIN CIRCULATOR SUCTION W/PUSHBUTTON.

   E. DEPRESS PUSHBUTTONS TO CLOSE ASTERN GUARDING VALVE AND OPEN H.P. BLEED VALVE. H.P. DRAIN VALVE CLOSES AUTOMATICALLY WHEN PRESSURE INCREASES.

4. "AT SEA" OPERATION

   A. MOVE THROTTLE LEVER TO LOWER SPEED POSITION, AT WHICH EXTRACTIONS ARE INEFFECTIVE.

      1. PLANT WILL AUTOMATICALLY SET "MANEUVERING" MODE.

5. OVERSPEED AND CONTROL SPEED MONITOR CHECK

   A. OPERATING AT NORMAL POWER OR ABOVE, DEPRESS PUSHBUTTON ON E.R. CONSOLE.

5. A. CONTINUED.

1. TURBINE OVERSPEED PROTECTION AND THROTTLE CONTROL MONITOR SYSTEM SOLENOIDS ENERGIZE AND TURBINE REDUCES TO APPROXIMATELY 90% POWER. RELEASE BUTTON TO COME BACK TO NORMAL SPEED.

6. "AT SEA" TO "MANEUVERING" MODE

A. PLACE SELECTOR SWITCH IN "MANEUVERING" POSITION.

B. THE FOLLOWING OCCURS:

1. "MANEUVERING" LIGHT ON BRIDGE CONSOLE LIGHTS.
2. ASTERN GUARDING VALVE OPENS
3. MAIN CIRCULATOR SUCTION VALVE OPENS
4. MAIN CIRCULATOR STARTS AFTER SUCTION OPENS
5. H.P. BLEED VALVE CLOSES
6. THROTTLE VALVE CLOSES TO "MANEUVERING" POSITION.

DEMONSTRATE SPEED RHEOSTAT (E.R. CONSOLE) TO VARY 80% - 100% MANEUVERING POWER.

7. AHEAD THROTTLE EMERGENCY TRIP

A. PLACE SELECTOR SWITCH IN TRIP POSITION. THROTTLE VALVE CLOSES.

B. RESET SWITCH. THROTTLE VALVE WILL RETURN TO OPEN POSITION.

8. MAIN STEAM LOW PRESSURE THROTTLE CONTROL

A. AT 760 PSIG (APPROX) LOW PRESSURE THROTTLE CONTROL WILL LIMIT VALVE OPENING.

NOTE: THIS WILL BE PROPORTIONAL UNTIL COMPLETE CLOSURE RESULTS AT APPROX. 700 PSIG.

RECORD: VALVE STARTS TO CLOSE _____ PSIG
VALVE FULLY CLOSED _____ PSIG

B. SET EMERGENCY SWITCH TO DEMONSTRATE CONTINUED OPENING OF THROTTLE.

9. Boiler High Water Level Throttle Override

   A. Throttle override prevents further opening

10. High Water Level Emergency Switch

   A. Set emergency switch to demonstrate continued opening of throttle on boiler high water.

11. Bridge Control

   Operate at appropriate lever positions for ahead and astern operation. Use Data Sheet for recording.

## OPERATION ON 80% MANEUVERING - BRIDGE CONTROL

| CONTROL LEVER POSITION | | RPM ATTAINED | TIME TO ACHIEVE RPM | DEAD TRAVEL TIME | TIME CHEST PSI STABILIZES | BLR SUPHT OUTLET PSI P | BLR SUPHT OUTLET PSI S | BLRS DRUM LEV P | BLRS DRUM LEV S | THROTTLE PRESS. | REMARK |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | DEAD SLOW | | | | | | | | | | |
| | SLOW | | | | | | | | | | |
| | HALF | | | | | | | | | | |
| | FULL | | | | | | | | | | |
| | MAXIMUM | | | | | | | | | | |
| | **ASTERN** | | | | | | | | | | |
| | DEAD SLOW | | | | | | | | | | |
| | SLOW | | | | | | | | | | |
| | HALF | | | | | | | | | | |
| | FULL | | | | | | | | | | |
| | MAX. (74 RPM) | | | | | | | | | | |
| | **AHEAD** | | | | | | | | | | |
| | DEAD SLOW | | | | | | | | | | |
| | STOP | | | | | | | | | | |
| | MAX. (106 RPM) | | | | | | | | | | |
| | STOP | | | | | | | | | | |

RECORD IN REMARKS, IF THE FOLLOWING OCCURS AND DURING WHICH MANEUVER:

1. BOILER LOW PRESSURE OVERRIDE, LIMITING OPENING OR CLOSING OF MANEUVERING VALVE.
2. HIGH WATER OVERRIDE, PREVENTING THROTTLE VALVE FROM OPENING FURTHER.

   NOTE: IF 1 OR 2 OCCUR, DEMONSTRATE EMERGENCY SWITCH FOR CONTINUED OPERATION OF THROTTLE
3. OPERATION OF AUTOMATIC STEAM DUMP AND IF BOILER SAFETY VALVES RELIEVE ON 6, 11, AND 4.

* SET SPEED RHEOSTAT ON E.R. CONSOLE FROM 80% TO 100%.

VESSEL: COLORADO

EVENT NO. 19

DATE: 2nd Day

CREW: OPERATING CREW

VENDORS ENGINEERS

TEST ENGINEER

INSTRUCTIONS:

With suitable sea conditions, as determined by the vendor representative, conduct the following:

a) Full speed - beam seas - stabilizer

b) Full speed - quartering seas - stabilized

c) Full speed - bow seas - stabilizer

Repeat the three conditions unstabilized. Vendor will record results.

VESSEL: COLORADO

EVENT NO. 20

DATE: 3rd Day

CREW: RIGGERS

MACHINISTS

ELECTRICIAN

TEST ENGINEERS

INSTRUCTIONS:

1. This test shall be conducted in 60 fathom depth.
2. Set handbrakes.
3. Disengage wildcat, port and starboard.
4. Let go one anchor running free but at safe speed under control handbrake. Stop and hold at each 15 fathoms.
5. Continue lowering to 60 fathoms. Record length of chain out (from hawse pipe) Port_____Stbd_____.
6. Engage wildcat and raise anchor from 60 Fathoms to 15 fathoms stopping on electric brake. Record times: Port_____Stdb_____.
7. Repeat 2 through 6 for other anchor.
8. Lower both anchors under power to 30 fathoms. Demonstrate Hydraulic Brake by killing Electric Power.
9. Heave both anchors simultaneously from 30 fathoms at a minimum chain speed of 30 FPM. Record the following:
   a) Maximum motor input amps_____volts_____
   b) Hoisting FPM_____.
   c) Motor RPM _____.
   d) Elapsed time hoisting (from 30 fathoms)_____.

VESSEL: COLORADO

EVENT NO. 21

DATE: 3rd DAY

CREW: OPERATING CREW

TEST ENGINEER

INSTRUCTIONS:

Prior to arrival at S. Pass secure distillers. During passage in the river, demonstrate emergency cooling of the main condenser from the firemain.

VESSEL: COLORADO

EVENT NO. 22

DATE: 3rd Day

CREW: Normal Operating Crew

Operating Chief Engineer

INSTRUCTIONS:

When ship is docked and engines are no longer needed, upon word from the Bridge, secure as per operating chief engineers instructions. When temperatures warrant, open equipment designated by inspection board members for Post Trial Inspection.

BOARDING LIST

S.S. COLORADO

| STATES STEAMSHIP CO. | CARD NO. | QTRS. | ABANDON SHIP STATION | O-OFFICER C-CREW MESS |
|---|---|---|---|---|
| CAPT. J. W. DICKOVER | 1 | C-3 | 1 | O |
| MR. P. MATSON | 2 | C-3 | 1 | O |
| MR. R. L. GRAY | 3 | C-1 | 1 | O |
| MR. L. A. VALLET | 4 | C-7 | 1 | O |
| MR. H. L. MOLLENKOPF | 5 | C-5 | 1 | O |
| CAPT. B. M. PERKINS | 6 | C-5 | 1 | O |
| MR. C. E. JOHNSON | 7 | B-17 | 1 | O |
| MR. J. R. SHAFER | 8 | U-7 | 1 | O |
| MR. LES TYO | 9 | U-7 | 1 | O |
| MR. R. KRAUSE, CH. ENGR. | 10 | U-14 | 2 | O |
| CAPT. A. SINNES, MASTER | 11 | B-17 | 1 | O |
| MR. W. ARNDT, CH. MATE | 12 | B-17 | 1 | O |
| MR. E. C. MERICAS | 13 | B-14 | 2 | O |
| MR. W. CONNOLY | 14 | B-14 | 2 | O |
| MR. R. COLLINS | 15 | B-18 | 2 | O |
| MR. R. ZIMMERMAN, 2ND ASST | 16 | B-18 | 2 | O |
| MR. T. GODFREY, 2ND MATE | 17 | U-16 | 2 | O |
| CH. ELECT | 18 | U-16 | 2 | O |
| CH. ELECT | 19 | U-16 | 2 | O |
| REEFER | 20 | U-26 | 2 | O |
| REEFER | 21 | U-26 | 2 | O |
| GEORGE G. SHARP CO. | | | | |
| MR. D. G. MAC MILLAN | 22 | C-1 | 1 | O |
| MR. R. A. MULLER | 23 | U-10 | 2 | O |
| MR. D. G. PEATTIE | 24 | U-10 | 2 | O |
| MR. R. R. TREMAYNE | 25 | U-10 | 2 | O |
| MR. F. E. JEFFREY | 26 | U-10 | 2 | O |
| MR. A. CHIN | 27 | U-10 | 2 | O |
| MR. L. BASSO | 28 | U-10 | 2 | O |

BOARDING LIST

S.S. COLORADO

| MARITIME ADMINISTRATION | CARD NO. | QTRS | ABANDON SHIP STATION | O-OFFICER C-CREW MESS |
|---|---|---|---|---|
| MR. R. L. JACK, CHAIRMAN TRIAL BOARD | 29 | C-4 | 2 | O |
| MR. D. H. SPECHT | 30 | C-4 | 2 | O |
| MR. K. W. FORBES | 31 | B-11 | 1 | O |
| MR. J. J. DAVIS | 32 | B-11 | 1 | O |
| MR. T. W. ALLEN | 33 | U-11 | 1 | O |
| MR. N. O. HAMMER | 34 | U-11 | 1 | O |
| MR. Y. OZODOGRU | 35 | U-11 | 1 | O |
| MR. A. BROWN | 36 | U-9 | 1 | O |
| MR. J. D. MAJOR | 37 | U-9 | 1 | O |
| MR. R. BLOOM | 38 | U-9 | 1 | O |
| AMERICAN BUREAU OF SHIPPING | | | | |
| MR. J. COLBY | 39 | U-5 | 1 | O |
| | | | | O |
| U.S. COAST GUARD | | | | |
| CAPT. HARBOURT | 41 | C-8 | 2 | O |
| LCDR. FOLEY | 42 | U-19 | 1 | O |
| LT. DEAVER | 43 | U-19 | 1 | O |
| LT. VITKAUSKAS | 44 | U-19 | 1 | O |
| BABCOCK & WILCOX | | | | |
| MR. R. HAGGART | 45 | P-32 | 2 | C |
| MR. E. CATLIN | 46 | P-32 | 2 | C |
| GRINNEL | | | | |
| MR. E. R. TREANOR | 47 | P-18 | 2 | C |

BOARDING LIST

S.S. COLORADO

| WESTINGHOUSE-HAGAN | CARD NO. | QTRS. | ABANDON SHIP STATION | O-OFFICER C-CREW MESS |
|---|---|---|---|---|
| MR. B. JOHNSON | 48 | P-31 | 1 | C |
| MR. B. FISHER | 49 | P-31 | 1 | C |
| MR. F. YOUNG | 50 | P-31 | 1 | C |
| MR. R. OVERLY | 51 | P-29 | 1 | C |
| MR. M. TODD | 52 | P-29 | 1 | C |
| MR. W. WILSON | 53 | P-21 | 1 | C |
| MR. C. STOREY | 54 | P-21 | 1 | C |
| MR. C. GUIDRY | 55 | P-19 | 1 | C |
| MR. R. WARD | 56 | P-19 | 1 | C |
| BAKER LYMAN | | | | |
| MR. I. WILLIAMS | 57 | P-18 | 2 | C |
| DRAKE THOMPSON CO. | | | | |
| MR. E. C. LEE | 58 | P-17 | 1 | C |
| MR. R. MOONEY | 59 | P-17 | 1 | C |
| MACKAY | | | | |
| MR. E. BAXTER | 60 | P-11 | 1 | C |
| MR. A. BROWN | 61 | P-11 | 1 | C |
| HYDE WINDLASS | | | | |
| MR. PEASLEE | 62 | P-5 | 1 | C |
| GENERAL ELECTRIC | | | | |
| MR. W. W. MAHONEY | 63 | P-5 | 1 | C |
| MR. J. HARBISON | 64 | P-7 | 1 | C |
| MR. G. GIBB | 65 | P-7 | 1 | C |
| MR. D. AMBROSE | 66 | P-9 | 1 | C |
| MR. T. HOOK | 67 | P-9 | 1 | C |
| RCA | | | | |
| MR. G. KRAGEL | 68 | P-4 | 2 | C |

BOARDING LIST

S. S. COLORADO

| SPERRY | CARD NO. | QTRS. | ABANDON SHIP STATION | O-OFFICER C-CREW MESS |
|---|---|---|---|---|
| MR. J. A. DICUS | 69 | P-4 | 2 | C |
| **CARRIER** | | | | |
| MR. A. PHILACTOS | 70 | P-6 | 2 | C |
| **McMULLEN** | | | | |
| MR. J. G. CHEYNE | 71 | P-4 | 2 | C |
| **HONEYWELL** | | | | |
| MR. F. X. GILLIO | 72 | P-6 | 2 | C |
| **TECHNICAL MARINE** | | | | |
| MR. R. TROTTIER | 72 A | U-5 | 2 | C |

BOARDING LIST

S.S. COLORADO

| AVONDALE ENGINEERING DEPT. | CARD NO. | QTRS. | ABANDON SHIP STATION | O-OFFICER C-CREW MESS |
|---|---|---|---|---|
| MR. R. P. MERIC, JR. CH. ENGR. | 73 | C-2 | 2 | O |
| MR. F. CALI, CH. SC. HULL | 74 | C-2 | 2 | O |
| MR. W. K. POTTS, PROJ. MGR. | 75 | C-6 | 2 | O |
| MR. J. BREEDEN, CH. MECH. SECT. | 76 | C-6 | 2 | O |
| MR. C. L. BURROS, SUPVSR. TEST SECT. | 77 | B-8 | 2 | O |
| MR. T. POOLE, MECH. ENGR. | 78 | B-8 | 2 | O |
| MR. H. SCHWARZ, MECH. ENGR. | 79 | B-8 | 2 | O |
| MR. W. EMMONS, MECH. ENGR. | 80 | B-8 | 2 | O |
| MR. JOHNSON, PIPING ENGR. | 81 | B-4 | 1 | O |
| MR. W. FRUTCHNICHT, GUAR. ENGR. | 82 | C-2 | 1 | O |
| MR. W. McGOVERN, FIELD ENGR. | 83 | B-4 | 1 | O |
| MR. W. GEORGE, MECH. ENGR. | 84 | P-52 | 2 | O |
| MR. V. LEUNG, MECH. ENGR. | 85 | P-52 | 2 | O |
| MR. P. HAVERKEMP, VIBR. | 86 | B-4 | 2 | O |
| MR. G. W. LANGDON, ELECTR. ENGR. | 87 | P-61 | 1 | O |
| MR. P. WAGNER, ELECTR. ENGR. | 88 | P-61 | 1 | O |
| MR. L. ASSENHEIMER, ELECTR. ENGR. | 89 | P-61 | 1 | O |
| MR. A. SCHULZE, SC. HULL | 90 | P-57 | 1 | O |
| MR. E. CORONA, SC. HULL | 91 | P-57 | 1 | O |
| MR. A. BADAWI, SC. HULL | 92 | P-57 | 1 | O |
| MR. Y. SHEN, SC. HULL | 93 | P-55 | 1 | O |
| MR. M. STEVENSON, TEST ENGR. | 94 | P-55 | 1 | O |
| MR. J. B. PIERCE, TEST ENGR. | 95 | P-43 | 1 | C |
| MR. V. McKLEROY, TEST ENGR. | 96 | P-43 | 1 | C |
| MR. D. LANCASTER, TEST ENGR. | 97 | P-37 | 1 | C |
| MR. R. JURADO, TEST ENGR. | 98 | P-37 | 1 | C |
| R. H. LILLEDAHL, DATA | 99 | REFR. HOLD 7 | 1 | C |
| ?. M. ROBICHAUX, DATA | 100 | REFR. HOLD 7 | 2 | C |
| . L. BOURG, DATA | 101 | REFR. HOLD 7 | 1 | C |
| B. ILLG, DATA | 102 | REFR. HOLD 7 | 2 | C |
| M. METWALLY, DATA | 103 | REFR. HOLD 7 | 1 | C |
| B. AMERLAND, DATA | 104 | REFR. HOLD 7 | 2 | C |

BOARDING LIST

S.S. COLORADO

| AVONDALE ENGINEERING DEPT. | CARD NO. | QTRS. | ABANDON SHIP STATION | O-OFFICER C-CREW MESS |
|---|---|---|---|---|
| MR. R. NEWCOMBE, DATA | 105 | REFR. HOLD 7 | 1 | C |
| MR. E. BRU, DATA | 106 | REFR. HOLD 7 | 2 | C |
| MR. TORRES, DATA | 107 | REFR. HOLD 7 | 1 | C |
| MR. B. STRAHLE, DATA | 108 | REFR. HOLD 7 | 2 | C |
| MR. HANSEN KOCH, DATA | 109 | REFR. HOLD 7 | 1 | C |
| MR. CORONA, VENTILATION | 110 | REFR. HOLD 7 | 2 | C |
| MR. S. CONSTANTINE, VENTILATION | 111 | REFR. HOLD 7 | 1 | C |
| MR. M. HALLARAN, VENTILATION | 112 | REFR. HOLD 7 | 2 | C |
| **PRODUCTION SUPERVISORS** | | | | |
| MR. C. STARKENBURG, OUTFIT. SUPT. | 113 | B-10 | 2 | O |
| MR. R. DEWEY, PROD. ENGINEER | 114 | B-10 | 2 | O |
| **NAVIGATION CREW** | | | | |
| CAPT. H. G. KOCH | 115 | MASTERS B-5 | 1 | O |
| CAPT. J. E. LEON (MATE) | 116 | N-5 | 2 | O |
| CAPT. N. O. CURTIS (MATE) | 117 | N-6 | 2 | O |
| MR. L. BYERS (MATE) | 118 | N-5 | 1 | O |
| MR. J. LOTTA, HELMSMAN | 119 | P-50 | 2 | C |
| MR. J. NAQUIN, HELMSMAN | 120 | P-50 | 2 | C |
| MR. J. SHIELDS, HELMSMAN | 121 | P-50 | 2 | C |
| MR. J. STAVNEM, HELMSMAN | 122 | P-50 | 2 | C |
| MR. D. KOCH | 123 | MASTERS S.R. | 1 | O |
| **ENGINEERS OPERATING CREW** | | | | |
| MR. J. SMITH, OP. CH. ENGR. | 124 | P-16 | 2 | O |
| MR. H. KUETER | 125 | P-16 | 2 | O |
| MR. D. O'FARRELL | 126 | P-12 | 2 | O |
| MR. C. COLE | 127 | REFR. HOLD 7 | 2 | C |
| MR. J. GRANT | 128 | REFR. HOLD 7 | 1 | C |
| MR. R. LEBLANC | 129 | REFR. HOLD 7 | 2 | C |
| MR. J. SCANNALIATO | 130 | P-12 | 2 | O |
| MR. J. ANDERSON | 131 | REFR. HOLD 7 | 1 | C |

BOARDING LIST

S. S. COLORADO

| ENGINEERS OPERATING CREW | CARD NO. | QTRS. | ABANDON SHIP STATION | C-CREW MESS |
|---|---|---|---|---|
| MR. K. GRABERT | 132 | REFR. HOLD 7 | 2 | C |
| MR. R. LARTIGUE | 133 | REFR. HOLD 7 | 1 | C |
| MR. B. YOUNGQUIST | 134 | REFR. HOLD 7 | 2 | C |
| MR. D. SMITH | 135 | REFR. HOLD 7 | 1 | C |
| MR. G. POWERY | 136 | REFR. HOLD 7 | 2 | C |
| MR. D. LUQUETTE | 137 | REFR. HOLD 7 | 1 | C |
| MR. W. McNABB | 138 | REFR. HOLD 7 | 2 | C |
| MR. P. MOLAISON | 139 | REFR. HOLD 7 | 1 | C |
| MR. C. BOURG | 140 | REFR. HOLD 7 | 2 | C |
| MR. J. MIGALORE | 141 | REFR. HOLD 7 | 1 | C |
| MR. F. NECK | 142 | REFR. HOLD 7 | 2 | C |
| MR. C. BENEDETTO | 143 | REFR. HOLD 7 | 1 | C |
| MR. D. BERGERON | 144 | REFR. HOLD 7 | 2 | C |
| MR. C. SMITH | 145 | REFR. HOLD 7 | 1 | C |
| MR. D. ROBINSON | 146 | REFR. HOLD 7 | 2 | C |
| MR. W. DUNN | 147 | REFR. HOLD 7 | 1 | C |
| MR. G. BECK | 148 | REFR. HOLD 7 | 2 | C |
| MR. J. RODRIGUEZ | 149 | REFR. HOLD 7 | 1 | C |
| MR. L. ROBERTS | 150 | REFR. HOLD 7 | 2 | C |
| MR. S. BOURG | 151 | REFR. HOLD 7 | 1 | C |
| **RIGGERS** | | | | |
| MR. F. SANCHEZ | 152 | P-42 | 2 | O |
| MR. D. RICHARD | 153 | P-42 | 2 | O |
| MR. G. DEAN | 154 | REFR. HOLD 7 | 1 | C |
| MR. J. ACUFF | 155 | REFR. HOLD 7 | 2 | C |
| MR. K. GLISSON | 156 | REFR. HOLD 7 | 1 | C |
| MR. E. SHIFLETT | 157 | REFR. HOLD 7 | 2 | C |

BOARDING LIST

S.S. COLORADO

| AVONDALE SERVICES | CARD NO. | QTRS. | ABANDON SHIP STATION | O-OFFICER C-CREW MESS |
|---|---|---|---|---|
| MR. R. JONES | 158 | CREW REC. RM. | 2 | C |
| MR. C. CHAISSON | 159 | CREW REC. RM. | 2 | C |
| MR. S. SAVOIE | 160 | P-49 | 1 | C |
| MR. R. HEBERT | 161 | CREW REC. RM. | 2 | C |
| MR. J. FORET | 162 | P-49 | 1 | C |
| MR. C. FORET | 163 | CREW REC. RM. | 2 | C |
| **ELECTRICIANS** | | | | |
| MR. C. VIERHOUT | 164 | P-53 | 1 | O |
| MR. H. LEBLANC | 165 | P-34 | 1 | C |
| MR. J. MANCUSO | 166 | REFR. HOLD 7 | 2 | C |
| MR. J. GOULON | 167 | REFR. HOLD 7 | 1 | C |
| MR. H. ROGERS | 168 | REFR. HOLD 7 | 2 | C |
| MR. P. CHAMPAGNE | 169 | P-8 | 1 | C |
| MR. M. SHEAR | 170 | REFR. HOLD 7 | 2 | C |
| MR. A. KNEALE | 171 | REFR. HOLD 7 | 1 | C |
| MR. H. BAUDEWIG | 172 | REFR. HOLD 7 | 2 | C |
| MR. V. RODI | 173 | REFR. HOLD 7 | 1 | C |
| MR. E. RITZMAN | 174 | N-5 | 2 | |
| MR. R. KERN | 175 | P-8 | 1 | C |
| MR. M. LIZANA | 176 | REFR. HOLD 7 | 2 | C |
| MR. L. BINDLE | 177 | REFR. HOLD 7 | 1 | C |
| MR. G. GERVAIS | 178 | REFR. HOLD 7 | 2 | C |
| MR. W. RODRIGUE | 179 | REFR. HOLD 7 | 1 | C |
| MR. K. HAMM | 180 | P-8 | 2 | C |
| **MACHINISTS** | | | | |
| MR. D. LALA | 181 | P-34 | 2 | O |
| MR. B. LANDRY | 182 | REFR. HOLD 7 | 2 | C |
| MR. M. BATTAGLIA | 183 | REFR. HOLD 7 | 1 | C |
| **SHIPFITTERS** | | | | |
| MR. M. RIVET | 184 | P-44 | 2 | O |
| MR. P. HAGGARD | 185 | REFR. HOLD 7 | 1 | C |

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| PIPEFITTERS | CARD NO. | QTRS. | ABANDON SHIP STATION | OFFICER C-CREW MESS |
|---|---|---|---|---|
| MR. E. FEAHENY | 186 | P-56 | 2 | C |
| MR. E. EHRHART | 187 | REFR. HOLD 7 | 2 | C |
| MR. W. DAIGLE | 188 | REFR. HOLD 7 | 1 | C |
| MR. T. BOURGEOIS | 189 | REFR. HOLD 7 | 2 | C |
| MR. W. BOUDREAUX | 190 | REFR. HOLD 7 | 1 | C |
| MR. C. RODRIGUE | 191 | REFR. HOLD 7 | 2 | C |
| MR. A. SIMON | 192 | REFR. HOLD 7 | 1 | C |
| MR. T. LANDRY | 193 | REFR. HOLD 7 | 2 | C |
| MR. G. ROUDOLPH | 194 | REFR. HOLD 7 | 1 | C |
| MR. W. McMURPHY | 195 | REFR. HOLD 7 | 2 | C |
| MARINE CATERS | | | | |
| MR. E. UGEDAHL | 196 | P-62 | 2 | C |
| MR. H. WALLEY | 197 | P-62 | 2 | C |
| MR. P. HUNT | 198 | P-58 | 2 | C |
| MR. C. SNABLE | 199 | P-58 | 2 | C |
| MR. G. INMAN | 200 | CREW REC.RM. | 2 | C |
| MR. K. MORA | 201 | CREW REC. RM. | 2 | C |
| SPARE PARTS | | | | |
| MR. D. HART | 202 | U-14 | 2 | C |
| TIMEKEEPER | | | | |
| MR. L. MADERE | 203 | REPR. HOLD 7 | 2 | C |
| INSTRUMENTATION | | | | |
| MR. J. ATZENHOFFER | 204 | REFR. HOLD 7 | 1 | C |
| MR. | 205 | REFR. HOLD 7 | 2 | C |
| MR. J. ADAMS | 206 | P-53 | 2 | C |

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